

CLAIMS

What is claimed is:

1. A liquid-crystal-panel evaluating method for optically evaluating a liquid crystal panel comprising:

making polarized light in a predetermined state be incident upon the liquid crystal panel; and

increasing a ratio of a polarized component of specularly reflected light, formed as a result of reflection of the incident light, transmitted through a liquid crystal layer of the liquid crystal panel to form detection light in order to evaluate the panel based on the detection light.

2. The liquid-crystal-panel evaluating method of Claim 1 wherein said liquid crystal panel further comprises a reflective liquid crystal panel.

3. The liquid-crystal-panel evaluating method of Claim 1 further comprising disposing reflecting means at a back side of the liquid crystal layer of the liquid crystal panel.

4. A liquid-crystal-panel evaluating method according to Claim 1, wherein the polarized light is composed almost exclusively of a polarized component including a first vibration plane, and wherein the detection light primarily comprises a component of the specularly reflected light having the polarized component having the first vibration plane eliminated therefrom.

5. A liquid-crystal-panel evaluating method according to Claim 4, wherein the detection light primarily comprises a polarized component including a second vibration plane that is virtually orthogonal to the first vibration plane, the polarized component including the second vibration plane extracted from the specularly reflected light.

6. A liquid-crystal-panel evaluating method for optically evaluating a liquid crystal panel including a liquid crystal layer comprising:

making linearly polarized light including a first vibration plane be incident upon the liquid crystal panel; and

forming a polarized component of reflected light, formed by reflection of the incident light, including a second vibration plane substantially perpendicular to the first vibration plane, as detection light in order to evaluate the panel based on the detection light.

7. The liquid-crystal-panel evaluating method for optically evaluating a liquid crystal panel including a liquid crystal layer of Claim 6 further comprising disposing reflecting means at a back side of the liquid crystal layer, and wherein the linearly polarized light including the first vibration plane is made to be incident upon the liquid crystal panel from a front side of the liquid crystal layer.

8. A method of evaluating a liquid crystal panel according to Claim 1, wherein thickness of the liquid crystal layer is determined based on the detection light.

9. A method of evaluating a liquid crystal panel according to Claim 8, wherein the thickness of the liquid crystal layer is determined based on a location of a frequency or a wavelength at an extreme value of a spectrum of the detection light.

10. A method of evaluating a liquid crystal panel according to Claim 1, wherein whether or not there is any dust inside the liquid crystal layer is examined based on the detection light.

11. A liquid-crystal-panel evaluating device for optically evaluating a liquid crystal panel comprising:

polarizing illumination means for illuminating the liquid crystal panel with polarized light in a predetermined state;

detection light obtaining means for receiving specularly reflected light sent forth from the liquid crystal panel and increasing a ratio of a polarized component of the specularly reflected light transmitted through a liquid crystal layer of the liquid crystal panel in order to obtain detection light; and

light detecting means for detecting the detection light.

12. A liquid-crystal-panel evaluating device for optically evaluating a liquid crystal panel including a liquid crystal layer comprising:

polarizing illumination means for illuminating the liquid crystal panel with linearly polarized light including a first vibration plane;

detection light obtaining means for receiving reflected light sent forth from the liquid crystal panel, and removing a polarized component of the reflected light including the first vibration plane in order to obtain detection light; and

light detecting means for detecting the detection light.

13. A liquid-crystal-panel evaluating device according to Claim 11, wherein the polarizing illumination means comprises a light source and polarizing means for obtaining the polarized light from the light emitted from the light source.

14. A liquid-crystal-panel evaluating device according to Claim 13, wherein a polarized-light polarization axis of the polarizing means and a polarized-light absorption axis of the detection light obtaining means are substantially orthogonal to each other with reference to an optical axis.

15. A liquid-crystal-panel evaluating device according to Claim 11, further comprising means for determining thickness of the liquid crystal layer based on the detection light.

16. A liquid-crystal-panel evaluating device according to Claim 15, wherein the means for determining the thickness of the liquid crystal layer derives the thickness of the liquid crystal layer based on a location of a frequency or a wavelength at an extreme value of a spectrum of the detection light.

17. A liquid-crystal-panel evaluating device according to Claim 11, further comprising means for showing whether or not there is any dust inside the liquid crystal layer based on the detection light.

18. A liquid-crystal-panel evaluating device according to Claim 12, wherein the polarizing illumination means comprises a light source and polarizing means for obtaining the polarized light from the light emitted from the light source.

19. A liquid-crystal-panel evaluating device according to Claim 18, wherein a polarized-light polarization axis of the polarizing means and a polarized-light absorption axis of the detection light obtaining means are substantially orthogonal to each other with reference to an optical axis.

20. A liquid-crystal-panel evaluating device according to Claim 12, further comprising means for determining thickness of the liquid crystal layer based on the detection light.

21. A liquid-crystal-panel evaluating device according to Claim 20, wherein the means for determining the thickness of the liquid crystal layer derives the thickness of the liquid crystal layer based on a location of a frequency or a wavelength at an extreme value of a spectrum of the detection light.

22. A liquid-crystal-panel evaluating device according to Claim 12, further comprising means for showing whether or not there is any dust inside the liquid crystal layer based on the detection light.